INSECTARY
NS Dept. of Natural Resources

Insectary Notes

November/December 2008

From the Editor

This issue has more results from our surveys: Mike has put together the jack pine budworm L-2 and pheromone trap results. Gina has provided a summary of the reports given at the Forestry Pest Management Forum. Keith has some hopes for cold weather and an advisory to look out for BWA. Jeff is finishing up the results for the passive tick survey.
'Til next time,

Jacqui
Editing . . . a Rewording Activity

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Say What and Quotes . . .

On New Years . . .
Yesterday, everybody smoked his last cigar, took his last drink and swore his last oath. Today, we are a pious and exemplary community. Thirty days from now, we shall have cast our reformation to the winds and gone to cutting our ancient shortcomings considerably shorter than ever. -M. Twain

Youth is when you're allowed to stay up late on New Year's Eve. Middle age is when you're forced to. -B. Vaughn

People are so worried about what they eat between Christmas and the New Year, but they really should be worried about what they eat between the New Year and Christmas. -Unk.

A New Year's resolution is something that goes in one year and out the other. -Unk.

Weather forecast for tonight: dark. Continued dark overnight, with widely scattered light by morning. -G. Carlin

A bargain is something you can't use at a price you can't resist. -F. P. Jones

Never do anything that you wouldn't want to explain to the paramedics. -Unk.

A clear conscience is usually the sign of a bad memory. -Unk.

If all else fails, immortality can always be assured by spectacular error. -J. K. Galbraith

A lot of people like snow. I find it to be an unnecessary freezing of water. -C. Reiner

Insectary Notes **is published 6 times per year by Forest Health, NS Department of Natural Resources.**
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Provincial Entomologist's Overview . . What's the Buzz?

An Update from the Forestry Pest Management Forum

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Gatineau, Quebec, 2-4 December 2008

Gina Penny

In December 2008, I attended what is known simply as "the Forum" by participants across Canada. It is a valuable chance to get together with colleagues and compare notes on the forestry pest issues that have come and gone throughout the year. The following is a summary of the information presented.

Please Note: Abbreviations: pop(s). = population(s), dec. = decrease, inc. = increase, defo = defoliation, N = north, S = south, E = east, W = west, ha = hectare, L-2 = 2nd larval instar,
M (in reference to a number) = million, K (in reference to a number) = thousand. Provinces participating in the Forum: Alberta (AB), British Columbia (BC), Manitoba (MB), New Brunswick (NB), Newfoundland (NL), Nova Scotia (NS), Ontario (ON), Quebec (QC), Saskatchewan (SK).

First column (shaded) indicates the provinces that reported on forest pests and diseases.

Table 1. REPORTS ON SPRUCE BUDWORM.

AB	2008 = 160K ha infested, not counting Wood Buffalo National Park. Predicting severe defo for 2009 in NE & expansion in NW.
MB	2008 = defo in NW very light, same predicted for 2009; Light to moderate in W. Light defo in E. Light to moderate in NE. Slight inc. in moth captures/trap in W Region, dec. everywhere else.
NB	Since 2005, trap catches have declined, highest numbers found in W & NW parts of province, & few L-2s have been detected. 2008 larvae were detected at 3 plots; 1 had 2 larvae, 1 had 21 larvae, 1 had 5 larvae.
NS	Since previous outbreak, pop. levels have dec'd dramatically. Low moth catches throughout E half of province. 2008 = 9% of pheromone traps positive. 2007 = 39%. No L-2's detected since 1995.
ON	2006 = 797,206 ha; 2007 = 849,045 ha; 2008 = 400,000 ha mortality.
QC	2007 major inc. in defo. 2008 an inc. of 20% on 2007.
SK	2008 = 12,160 ha large pop. dec. 10K ha spray program in 2008.

Table 2. REPORTS ON JACK PINE BUDWORM.

MB	Pop. declined again from 2007.
NB	Pops. remain low across the province. No defo forecast for 2009.
NS	2005 defo 1st detected in W = 360 ha moderate to severe; 2007 = 1554 ha all light; 2008 = 3535 ha light & moderate. 2006 = 89% positive pheromone traps; 2007 = 76%. 2007 = 40% of sites with L-2's; 2006 = 45%.
ON	2005 = 92,219 ha; 2006 = 740,116 ha; 2007 = 536,051 ha. Pop. down due to spray program. Pop. moved N in 2008 = 166,969 ha (137,624 ha tree mortality) . L-2 surveys are ongoing. Possible NE district spray program.
QC	Present in the W portion of the province.
SK	72 traps across boreal forest. 3 traps/site clustered in regions. Feels things are low.

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Table 3. REPORTS ON GYPSY MOTH.

AB	2009 = not expecting problems.
BC	Trapping shows peppering of single moth catches on Lower Mainland & S Island. None in interior. Hot spot at Harrison Hot Springs. 2009 aerial spray program.
MB	2007 = 17 moths captured, 2008 = 26 moths. Inc. initiated an egg mass survey. Egg mass numbers increasing . Recommending a control program for 2009. > 500ha treated.
NB	2008 trap catches & egg mass counts inc'd. Localized defo could occur in 2009 depending overwinter survivorship & natural biocontrols.
NS	Delta traps = pop. inc. in New Glasgow. Permanent traps = pop. inc. in both Halifax & Lunenburg Cos.
ON	2006 = 10,350 ha; 2007 = 31,094 ha defo. Urban areas were sprayed in 2008. 2008 = 39,475 ha pop. on the inc. but lots of larval mortality due to fungus, *Entomophaga maimaiga*.
QC	Present for many years & not a problem. 2008 = moths at latitudes not seen before.
SK	2008 = 280 delta traps; half in the City of Saskatoon. Only 2 positive: 1 Swift Current, 1 Moose Jaw plus another 4 in Regina (City of Regina traps).

Table 4. REPORTS ON FOREST TENT CATERPILLAR.

AB	Egg band surveys predict pop. dec./collapse for 2009.
NB	Trap catches remain low for 2007/08. No defo predicted for 2009.
ON	2007 = 371,494 ha; 2008 = 42,858 ha natural larval mortality very high due to fungi.
QC	Affects poplars in the W.

Table 5. REPORTS ON HEMLOCK LOOPER.

NB	Last defo recorded in 2001 = 760 ha Since then pops. remain at endemic levels.
NL	2008 = 25,500 ha treated with Btk. 2009 egg survey ongoing. Unknown if control program necessary.

Table 6. REPORTS ON EMERALD ASH BORER.

MB	Risk analysis being conducted as part of NFPS. Inventory of black ash forest in the boreal forest, ash shelterbelts, green ash river bottom forest & urban areas.
ON	Conducted aerial survey to Id/locate early stages of ash decline. 60+ trees/location with ash decline.

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Table 7. REPORTS ON MOUNTAIN PINE BEETLE.

AB	2006 beetles moved approximately 300 km into province from BC. Number of trees detected = 249,117: number controlled = 245,046.
BC	2008 = 7.8M ha: 2M ha dec. from 2007. Annual total red attack 2007 = 10,051,919 ha, 2008 = 7,846,000 ha. Spreading into SE corner of province. Beetle continues to kill young pine (plantations).
SK	Aerial & ground based monitoring in W boreal forests. No beetle detected. Area of infested trees in Cypress Hill Provincial Park (fall & burn program this winter).

Table 8. REPORTS ON BANDED ELM BARK BEETLE.

AB	No beetles found, continuing to monitor.
MB	2 baited traps at each of 11 sites in S.
SK	Began monitoring in 2004. No beetles detected until 2007 in 5 of 10 communities. 2008 monitoring grid expanded in positive communities.

Table 9. REPORTS ON SATIN MOTH.

BC	Invasive in Prince George.
QC	Major infestation at LaBelle.

Table 10. REPORTS ON LARGE ASPEN TORTRIX.

AB	Only in Wood Buffalo National Park.
MB	In Central & W parts of province.
ON	2008 = 64,267 ha. New pockets in NW.
QC	Present. Tends to disappear after 3 years.

Table 11. REPORTS ON WESTERN SPRUCE BUDWORM.

AB	2007 = 17K ha infested in a confined area. Egg mass survey predicted severe defo for 2008 but it was actually moderate. 2007 = 17,689 ha; 2008 = 22,100 ha but severity of defo dec'd.
BC	Treated approximately 60K ha with Btk. Target protection of understory trees. N & S of Kamloops are areas of concern.

Table 12. REPORTS ON ASPEN DECLINE/MORTALITY.

ON	2008 = 1,869 ha some mortality from bronze poplar borer.
SK	2007 = inc. in aspen foliar diseases. Declined rapidly in 2008.

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Table 13. REPORTS ON DWARF MISTLETOE IN LODGEPOLE PINE.

BC	Present.
SK	Present. Management standards & guidelines complete. Managed using silvicultural means.

Table 14. REPORTS ON SIROCOCCUS SHOOT BLIGHT.

NB	Damage in NW & SW. Areas will be harvested.
NS	2005/06 = low infection levels in red pine plantations throughout central portion of Province. 2007 = moderate to severe defo in Trafalgar & Garden of Eden areas. Harvesting infected red pines approximately 6K ha.

Table 15. REPORTS ON BEECH BARK DISEASE.

NB	Beech mortality. Aerial surveys conducted in 2006 & 2007.
QC	Present.

Table 16. REPORTS ON DUTCH ELM DISEASE.

MB	2007 removed just under 11K trees.
SK	Through most of SE corner of province. Cost share agreement with 43 communities. Number of elms removed in municipalities 2007 = 99; 2008 = 108. 2008 = No new finds in new communities.

Table 17. REPORTS ON ABIOTIC FACTORS - BLOW DOWNS.

ON	2008 = 6611 ha.
QC	2007 = 400 ha; 2008 = sporadic, negligible.
SK	2008 = 707 ha.

Bits and Pieces

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Just Tickin' Along

Jeff Ogden

The coming of cold winter temperatures brings a pause in the ticks arriving at my desk and time to reflect on the 2008 season. I am currently getting the passive tick results mapped and the dots on the map are showing some possible changes in the blacklegged tick (BLT) populations in Nova Scotia. Like past seasons, I am looking for clusters of multiple tick submissions that may indicate new establishments of the BLT. So far there appears to be groupings of submissions from two areas in Pictou County, one or two sites in Antigonish County and a small area in Yarmouth County. Multiple submissions continued to pour in from our known established areas in Lunenburg, Bedford and Gunning Cove as well as a previously surveyed site in Queens County. More analysis of this year's data is needed but I am quite certain that come this spring, I will be out in a few of these sites with my drag blanket in hand.

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Who? Where? Why?

Walter Fanning, Director Forest Protection

The Forest Protection Division has undergone several changes over the last few months, with more to follow.

First, I would like to congratulate Jim Rudderham as the new Forest Health Supervisor. Jim has been with the Division for quite some time as a forest technician and he now looks forward to the challenges of supervising the group. Previously known as Integrated Pest Management, the new Forest Health name was chosen to better reflect the broader work of the unit.

Secondly, I would like to congratulate John Ross as the new Risk Services Manager. John was previously the Fire Science Officer in Fire Management but his new role will be to provide knowledge, science and technology support for both the Fire Management and Forest Health programs.

Thirdly, and although she is still based in Shubie, Gina has been re-assigned responsibilities within the National Forest Pest Strategy until March 31, 2010. As such, interviews have been completed and we are days away from announcing her term replacement to continue with Gina's provincial entomological duties.

Fourthly, we are in the midst of a final decision to hire another term employee to work on IT and technological improvements to the insect and disease program. We are very fortunate that these two term positions are being funded through an agreement with Natural Resources Canada as part of the national strategy.

Lastly, a posting will go out very soon to fill the vacancy left by Jim Rudderham. A forest technician is needed to be one of our Forest Health Specialists.

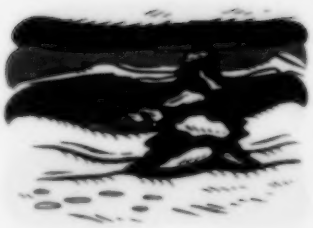
So, as you can see, things are changing fast here and we look forward to introducing everyone personally at the Annual Pest Detection Officer meeting in April.

Thanks to Wayne MacKay for emailing the "First Test for 2009", also known as the quiz for people who know everything. These are not trick questions. They are straight questions with straight answers. See how you do!

1. Name the one sport in which neither the spectators nor the participants know the score or the leader until the contest ends.
2. What famous North American landmark is constantly moving backward?
3. Of all vegetables, only two can live to produce on their own for several growing seasons. All other vegetables must be replanted every year. What are the only two perennial vegetables?
4. What fruit has its seeds on the outside?
5. In many liquor stores, you can buy pear brandy, with a real pear inside the bottle. The pear is whole and ripe, and the bottle is genuine; it hasn't been cut in any way. How did the pear get inside the bottle?
6. Only three words in standard English begin with the letters 'dw' and they are all common words. Name two of them.
7. There are 14 punctuation marks in English grammar. Can you name at least half of them?
8. Name the only vegetable or fruit that is never sold frozen, canned, processed, cooked, or in any other form except fresh.
9. Name 6 or more things that you can wear on your feet beginning with the letter 'S'.

ANSWERS?? Scroll Down . . . bottom of next page.

On Winter . . .



An elderly woman lived on a small farm in Canada, just yards away from the North Dakota border.

Their land had been the subject of a minor dispute between the United States and Canada for years. The widowed woman lived on the farm with her son and three grandchildren.

One day, her sone came into her room holding a letter. "I just got some news, Mom," he said. "The Government has come to an agreement with the people of North Dakota. They've decided that our land is really part of the United States. We have the right to approve or disapprove of the agreement. What do you think?"

"What do I think?" his mother said. "Sign it! Call them right now and tell them we accept! I don't think I can stand another Canadian winter!"

Muffled Workers

Winters are fierce where he lives, so the owner of the estate felt he was doing a good deed when he bought earmuffs for his foreman.

Noticing, however, that the foreman wasn't wearing the earmuffs even on the bitterest day, the landlord asked, "Didn't you like the muffs?"

The Foreman said, "They're a thing of beauty."

"Why don't you wear them?"

The Foreman explained, "I was wearing them the first day, and somebody offered to buy me lunch, but I didn't hear him! Never again, never again!"

The Answers!

1. The one sport in which neither the spectators nor the participants know the score or the leader until the contest ends. Boxing
2. North American landmark constantly moving backwards. Niagara Falls (The rim is worn down about two and a half feet each year because of the millions of gallons of water that rush over it every minute.)
3. Only two vegetables that can live to produce on their own for several growing seasons: Asparagus and Rhubarb.
4. The fruit with its seeds on the outside: Strawberry.
5. How did the pear get inside the brandy bottle? It grew inside the bottle. (The bottles are placed over pear buds when they are small, and are wired in place on the tree. The bottle is left in place for the entire growing season. When the pears are ripe, they are snipped off at the stems.)
6. Three English words beginning with dw: dwarf, dwell and dwindle.
7. Fourteen punctuation marks in English grammar: Period, comma, colon, semicolon, dash, hyphen, apostrophe, question mark, exclamation point, quotation marks, brackets, parenthesis, braces, and ellipses.
8. The only vegetable or fruit never sold frozen, canned, processed, cooked, or in any other form but fresh: Lettuce.
9. Six or more things you can wear on your feet beginning with 'S': Shoes, socks, sandals, sneakers, slippers, skis, skates, snowshoes, stockings, stilts.

Project Updates

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Jack Pine Budworm L-2 Survey

Mike LeBlanc

The number of sample points was increased to 97 this year to broaden the assessment of where there maybe building populations. Results indicate that high overwintering populations remain in areas defoliated in 2008, and a strong possibility of continued expansion to the east and west in 2009 (see Fig. 1.) This year, we recorded our highest ever number of overwintering larvae at Kempton Bay Island, located in Lake Rossignol, Queens Co.: 3256 larvae per 1 square metre of bark surface. It was a newly defoliated site in 2008, and is likely to get hit again in 2009. I say "likely" because we can never be sure. As one great (now retired) entomologist once said: "nothing like an insect to make a liar out of ya." Probably one of the first rules of entomology usually learned the hard way.

Table 18. JACK PINE BUDWORM L-2 SURVEYS, 2006 - 2008.

Year	No. of L-2 Points	% of Points Positive	L-2 Larvae / 1 square metre of bark						
			No. of points in each range					L-2/point	Mean
			0	1 - 50	51 - 200	201 - 500	>500		
2006	38	45	21	16	1	0	0	0 - 166	9.9
2007	72	40	43	24	1	4	0	0 - 343	20.4
2008	97	32	66	25	3	1	2	0 - 3256	49.0

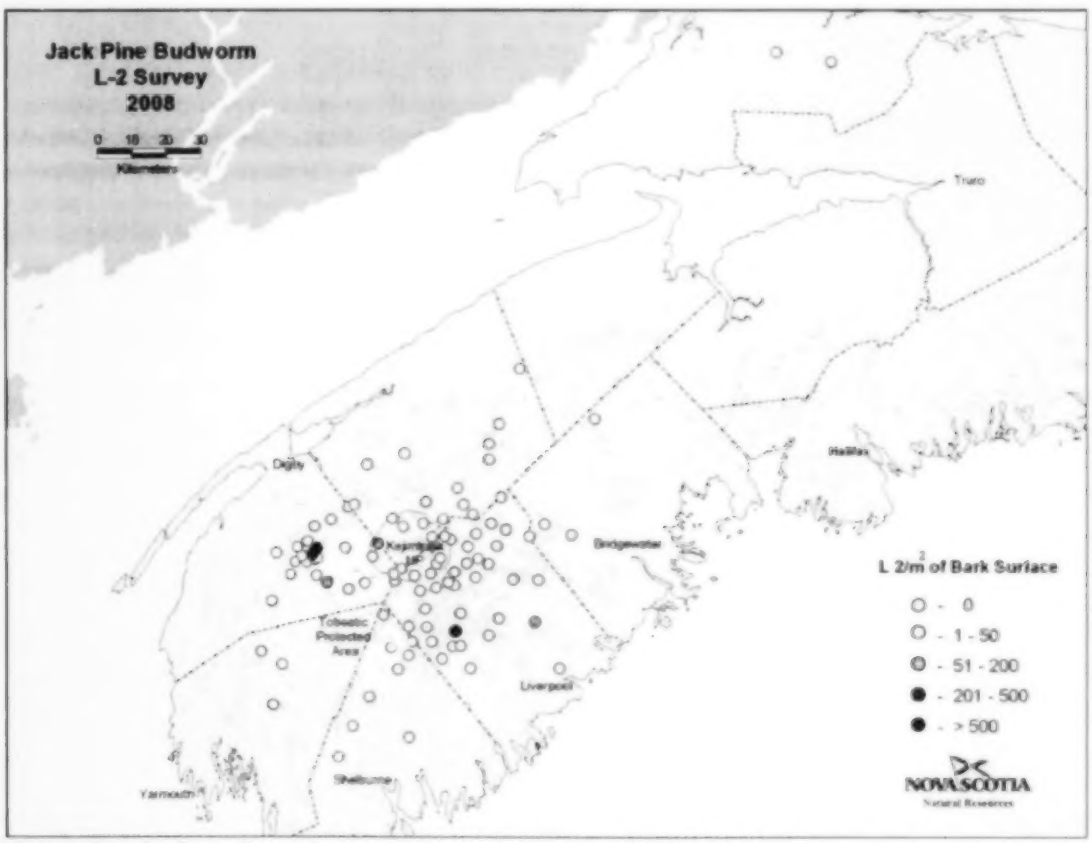

Fig. 1. Results from the jack pine budworm L-2 survey, 2008.

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Jack Pine Budworm Pheromone Traps

Mike LeBlanc

As with the L-2 points, the number of pheromone traps has also been increased because they are at the same locations. We do this to attempt to correlate pheromone trap catch numbers to overwintering population numbers and the amount of expected defoliation the following year. Unfortunately, results so far indicate no correlation at all.

Table 19. JACK PINE BUDWORM PHEROMONE TRAP SURVEYS, 2006 - 2008.

Year	No. of traps placed	No. of traps returned	% of traps positive	No. of Traps in Each Catch Range					Catch Range	Mean Catch
				0	1 - 10	11 - 20	21 - 40	>40		
2006	49	45	89	5	29	7	3	1	0 - 48	7.9
2007	70	55	76	13	26	16	0	0	0 - 19	6.9
2008	101	84	80	17	61	3	3	0	0 - 33	4.2

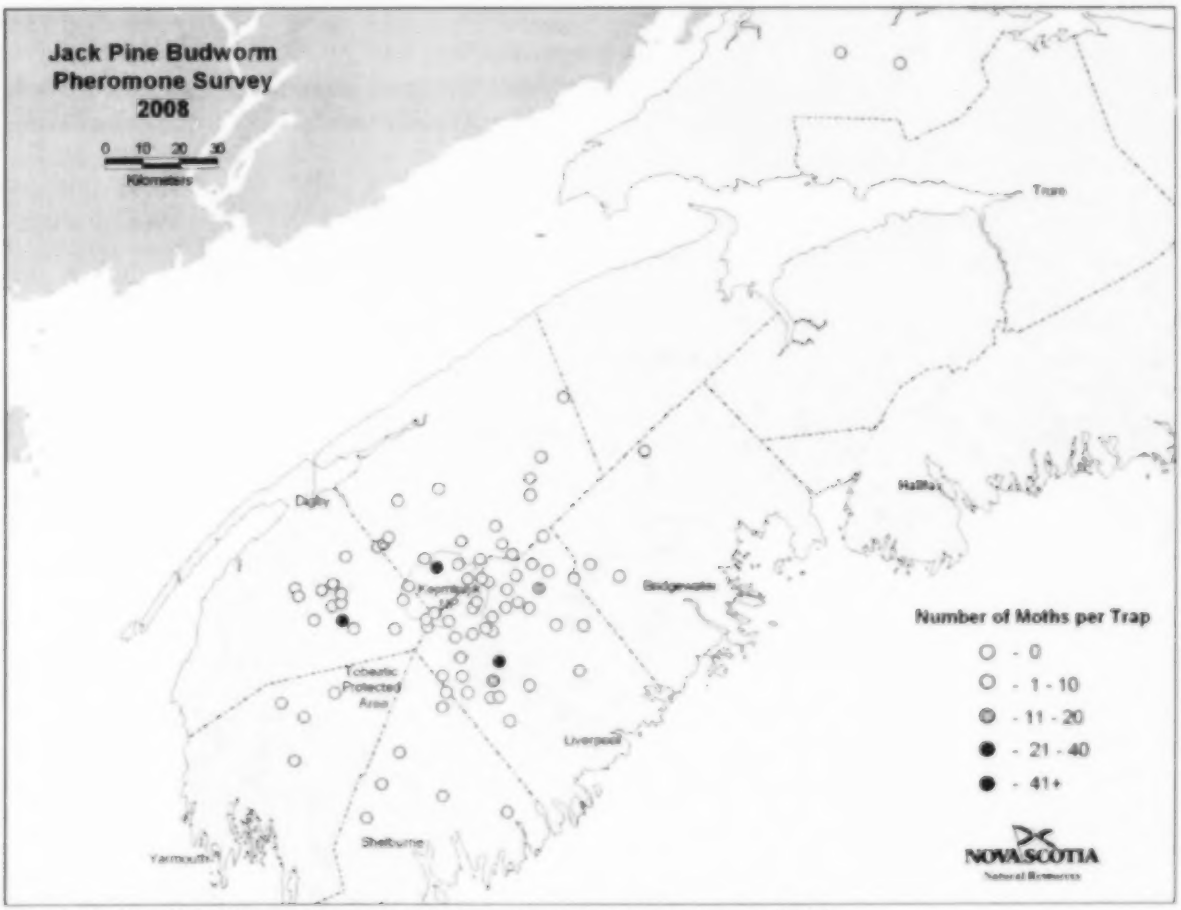

Fig. 2. Results from the jack pine budworm pheromone trap survey, 2008.

Monitor Watch

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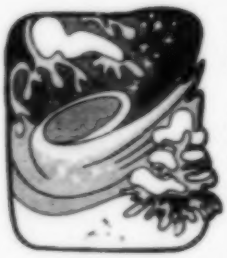

♪ 'Cause that winter wind sure can blow cold way out there ♬

Keith Moore

Four Strong Winds . . . one of my favourite songs especially when Ian and Sylvia sing it. Let's hope the winter winds blow cold around here in the next month or two.

I am getting reports from growers that the Balsam Woolly Adelgid is on the rise or at least the damage levels are. Here we go again!!

I am seeing it in my own plantations; the small trees are showing severe gout now as a result of the warm winter in 2006. That little warm blip was enough to do it, and the cold snaps in following winters was too little too late: the damage was done. It is becoming blatantly apparent to me that it doesn't take much of a warming trend to make this insect take off in numbers and cause damage.

Another thing is the extended warm fall seasons: these allow the 2nd generation to flourish. We are on the threshold for temperature control. A few of my Fraser firs were hit and are severely gouted. Fraser seem to be very susceptible to balsam wooly adelgid damage. Some of my small (4-5 feet) balsam fir plantation trees were hit hard as well. It would serve me well to listen to my own advice but some of us, including me, have to learn the hard way, and mother nature is not a forgiving teacher. My balsam fir plants were wildings, lifted from my woodlot and planted in a field about 5 years ago. I did not dip them in any insecticidal soap or wash before planting, and I wish now I had taken the time to do that. They have 2-3 foot leaders and are doing well but every now and then there is one in the row gouted to heck with BWA. It came with the tree when it was planted. A present that just keeps on giving, so to speak!!!

I suggest everyone go out and check your trees for signs of gouting this winter so you know what you are up against come spring. It is an understatement to say that I am very concerned! If we have enough cold weather, we will be fine, if we don't we need to be ready and have an idea what the level of gout is on your trees. You may want to cut some of the worst stuff out whilst it is cold. You may also want to do some bucket samples in late March to see what overwintering nymphs are on the trees. No one can predict what the winter temperatures will bring but a good walk around your tree lot this winter will give you and idea how many trees are damaged.

The Last Laugh

"Actual" Quotes from the Courtroom

(*Editor's Note: Anything "Actual" from the Internet is subject to interpretation, but have a laugh anyway.*)

Q: What is your date of birth?
A: July fifteenth.
Q: What year?
A: Every year.

Q: What was the first thing your husband said to you when he woke that morning?
A: He said, "Where am I Cathy?"
Q: And why did that upset you?
A: My name is Susan.

Q: Trooper, when you stopped the defendant, were your red and blue lights flashing?
A: Yes.
Q: Did the defendant say anything when she got out of her car?
A: Yes sir.
Q: What did she say?
A: What disco am I at?

Q: Do you recall the time that you examined the body?
A: The autopsy started around 8:30 p.m.
Q: And Mr. Dennington was dead at the time?
A: No, he was sitting on the table wondering why I was doing an autopsy.